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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,963	09/27/2000	Daoqiang Lu	GTRC40	1376

7590 10/31/2003

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EXAMINER	
SELLERS, ROBERT E	
ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 10/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/671,963	LU ET AL.	
	Examiner	Art Unit	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-18 and 21-34* is/are pending in the application.

4a) Of the above claim(s) *17,21-29 and 32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15, 16, 18, 30, 31, 33 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

This application contains claims 17, 21-29 and 32 drawn to inventions nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15, 16, 18, 30, 31, 33 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed.

There is no support for the newly claimed application of an adhesive composition "to said materials to provide a stable electrical contact resistance" in claim 15 lines 2-3 and the adhesion promotor "in an amount sufficient for promoting adhesion of the adhesive to a substrate" in lines 6-7.

There is no description anywhere in the specification of any specific steps for joining electrically conductive materials other than the language of claim 15 wherein no recitation of providing a stable electrical contact resistance is found.

There is no disclosure of "an amount sufficient for promoting adhesion." Page 4, line 21 only substantiates a specific proportion of between 0.02 to 10 weight percent.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15, 16, 18, 30, 31, 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The providing of "a stable electrical contact resistance" does not clearly convey at what value of electrical contact resistance the term "stable" is satisfied.

The text of section 103(a) of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 15, 16, 18, 30, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuri et al., Saito et al. '502, Lohse, Japanese '882, '877 and '052 in view of Eadara and the Vincent et al. article) and Wang et al. and Soviet Union '508.

Claims 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., Japanese '232, the Soviet Union patent and Saito et al. '136 in view of Eadara et al. and Vincent et al.

Claims 16, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Soviet Union patent in view of Okuri et al., Lohse and Japanese '052.

The rejections are maintained for the reasons of record set forth in the previous Office actions. The arguments filed October 6, 2003 have been considered but are unpersuasive.

The declaration filed October 6, 2003 merely presents the opinion of inventor C. P. Wang with respect to the level of involvement in the work reported in Vincent et al. which does not negate the teaching that an epoxypropyltrimethoxysilane coupling agent (page 3, the Underfill Adhesion section wherein Y of $Y\text{-}CH_2CH_2CH_2\text{-}Si(O\text{-}CH_3)_3$ is an epoxy group) "improves the adhesive bond between two materials" and "can also improve the wetting, rheology and other handling properties (page 2, the Approach section, lines 2-5)" of epoxy resin/anhydride hardener underfill encapsulants.

The revelation in Eadara that an epoxy silane adhesion promotor provides moisture resistance to an epoxy-terminated polyurethane adhesive is applicable to epoxy-terminated polyurethane adhesives regardless of the substrates to be bonded. The properties imparted by the epoxy silane are desirable features to be expressed by the adhesives of Okuri et al., Saito et al., Lohse and the Japanese patents irrespective of the particular surfaces to be adhered.

According to MPEP § 2144 under the heading "RATIONALE DIFFERENT FROM APPLICANT'S IS PERMISSIBLE", "It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant (*In re Linter*, 173 USPQ 560, CCPA 1972; and *In re Dillon*, 16 USPQ2d 1897, 1901, "it is not necessary in order to establish a *prima facie* case of obviousness that . . . there be a suggestion in or expectation from the prior art that the claimed compound or composition will have the same or a similar utility as one newly discovered by applicant."). Although the moisture resistance advantage recognized by Eadara et al. is not the same as that of the claimed adhesion promotor, it does not negate its rationale for employment in the adhesives of Okuri et al., Saito et al., Lohse and the Japanese patents.

Eadara (col. 2, lines 45-48) discloses the identical utility of the epoxy silane as that claimed as an adhesion promotor incorporated in an amount of from 0.5 to about 3 wt.% which is encompassed by the range of between 0.02 to 10 weight percent espoused on page 4, line 21.

Independent claim 30 (not claim 16) defines an epoxy-modified polyurethane having a structure wherein the R_1 radical of the –N(H)-R_1-N(H)- moieties are limited to a cycloaliphatic, aromatic or araliphatic hydrocarbon radical. According to page 9, lines 24-33 of the specification, the R_1 substituent emanates from the diisocyanate reactant OCN-R_1-NCO. The polytetramethylene glycol reactant of the epoxy-modified polyurethanes of Japanese '882, '877 and '052 is embraced by the –X_1-R_2-X'_1- moiety of the epoxy-modified polyurethane structure wherein R_2 is alkoxy.

Note that neither structure of claim 16 nor 30 defines the X'_1 group. The specification on page 7, line 17 describes $X_1 = X'_1$.

The amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

(703) 308-2399 (Fax no. (703) 872-9306)
Monday to Friday from 9:30 to 6:00 EST

Robert Sellers
Primary Examiner
Art Unit 1712

rs
10/27/03